

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 to 17. (Canceled)

18. (Currently amended) A method of comparing protein expression in two or more populations of cells, said method comprising:

(a) contacting a first microarray comprising antibodies on a solid surface with a first cell lysate of a first cell population, thereby generating a first binding pattern, wherein the first cell lysate comprises antigens coupled to a first fluorescent dye;

(b) contacting either the first microarray of antibodies on the solid surface or a duplicate array comprising antibodies on a solid surface with a second cell lysate of a second cell population, thereby generating a second binding pattern, wherein the second cell lysate comprises antigens coupled to a second fluorescent dye; and

(c) comparing the first binding pattern with the second binding pattern to detect the presence of at least one protein that is differentially expressed in the first cell population with respect to the second cell population.

19 to 70. (Canceled)

71. (Previously presented) A method according to claim 18, wherein contacting a first microarray in step (a) is contacting a first microarray that comprises a collection of antibodies that recognize a set of mammalian antigens.

72. (Previously presented) A method according to claim 18, wherein contacting a first microarray in step (a) is contacting a first microarray that comprises 48 different antibody preparations.

73. (Previously presented) A method according to claim 72, wherein contacting a first microarray in step (a) is contacting a first microarray that comprises 90 different antibody preparations.

74. (Previously presented) A method according to claim 72, wherein contacting a first microarray in step (a) is contacting a first microarray that comprises a collection of antibodies that recognize a set of human antigens.

75. (Previously presented) A method according to claim 74, wherein contacting a first microarray in step (a) is contacting a first microarray that comprises a collection of antibodies that recognize a set of 1000 human antigens.

76. (Previously presented) A method according to claim 18, wherein contacting a first microarray in step (a) is contacting a first microarray that comprises a collection of antibodies that recognize a set of proteins expressed in a cell type.

77. (Previously presented) A method according to claim 75, wherein contacting a first microarray in step (a) is contacting a first microarray that comprises a collection of antibodies that recognize a set of proteins expressed in T cells.

78. (Previously presented) A method according to claim 76, wherein contacting a first microarray in step (a) is contacting a first microarray that comprises 90 different antibody preparations.

79. (Previously presented) A method according to claim 76, wherein contacting a first microarray in step (a) is contacting a first microarray that comprises a collection of antibodies that recognize a set of 1000 human antigens.

80. (Previously presented) A method according to claim 73, wherein contacting a first microarray in step (a) is contacting a first microarray that comprises a collection of antibodies that recognize a first set of antigens that are differentially expressed in a first disorder and a second set of antigens that are differentially expressed in a second disorder.

81. (Previously presented) A method according to claim 80, wherein contacting a first microarray in step (a) is contacting a first microarray that comprises 90 different antibody preparations.

82. (Previously presented) A method according to claim 80, wherein contacting a first microarray in step (a) is contacting a first microarray that comprises a collection of antibodies that recognize a set of 1000 human antigens.

83. (Canceled)

84. (Previously presented) A method according to claim 18, wherein contacting a first microarray in step (a) is contacting a first microarray that comprises a collection of antibodies that recognize a set of proteins of a pathogen.

85 to 87. (Canceled)

88. (New) A method according to claim 18, wherein in step (a) the first microarray is contacted with a first cell lysate comprising antigens coupled to a first cyanine dye and in step (b) either the first microarray or a duplicate array is contacted with a second cell lysate comprising antigens coupled to a second cyanine dye.

89. (New) A method according to claim 18, wherein in step (a) the first microarray is contacted with a first cell lysate comprising antigens coupled to a Cy3 dye and in step (b) either the first microarray or a duplicate array is contacted with a second cell lysate comprising antigens coupled to a Cy5 dye.

90. (New) A method of comparing protein expression in two samples, said method comprising:

(a) labeling a first protein sample with a first fluorescent dye and a second protein sample with a second fluorescent dye;

(b) removing unbound dye from the first sample and the second sample to generate a first labeled protein sample and a second labeled protein sample;

(c) incubating the first labeled protein sample and the second labeled protein sample with a microarray comprising antibodies to generate a first binding pattern and a second binding pattern;

(d) scanning the microarray to detect the first binding pattern and the second binding pattern;

(g) comparing the first binding pattern with the second binding pattern to detect the presence of at least one protein that is differentially expressed in the first sample with respect to the second sample.

91. (New) A method according to claim 90, wherein the labeling is labeling the first protein sample with a first cyanine dye and the second protein sample with a second cyanine dye.

92. (New) A method according to claim 90, wherein the labeling is labeling the first protein sample with Cy3 and the second protein sample with Cy5.